

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

HODGKINSON OLD MCINNES
Level 3, 20 Alfred Street
Milsons Point, New South Wales 2061
AUSTRALIE

Date of mailing (day/month/year) 20 April 2001 (20.04.01)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference 2521 01	
International application No. PCT/AU99/00921	International filing date (day/month/year) 22 October 1999 (22.10.99)

1. The following indications appeared on record concerning:

☒ the applicant ☐ the inventor ☐ the agent ☐ the common representative

Name and Address

BRUCE WILSON SERVICES PTY. LIMITED
29 Carter Road
Brookvale, New South Wales 2100
Australia

State of Nationality

AU

State of Residence

AU

Telephone No.

(02)99391300

Facsimile No.

(02)99071400

Teleprinter No.

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☒ the person ☒ the name ☒ the address ☐ the nationality ☐ the residence

Name and Address

PROEM PTY LTD
29 Carter Road
Brookvale NSW 2100
Australia

State of Nationality

AU

State of Residence

AU

Telephone No.

Facsimile No.

Teleprinter No.

3. Further observations, if necessary:

Please note the change of the name of the company in the addressee box.

4. A copy of this notification has been sent to:

☒ the receiving Office ☐ the designated Offices concerned
☐ the International Searching Authority ☒ the elected Offices concerned
☒ the International Preliminary Examining Authority ☐ other:
The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

Athina Nickitas-Etienne

Telephone No.: (41-22) 338.83.38

PATENT COOPERATION TREATY

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NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Assistant Commissioner for Patents
United States Patent and Trademark
Office
Box PCT
Washington, D.C.20231
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 14 June 2000 (14.06.00)	
International application No. PCT/AU99/00921	Applicant's or agent's file reference 2521 01
International filing date (day/month/year) 22 October 1999 (22.10.99)	Priority date (day/month/year) 23 October 1998 (23.10.98)
Applicant WILSON, Monte, Bruce	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:
23 May 2000 (23.05.00)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Nestor Santesso Telephone No.: (41-22) 338.83.38
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CLAIMS

1. A leak detection composition for a refrigeration system comprising a fluorescent dye or other visible dye dissolved in or in suspension or emulsion in a solvent for said dye together with a refrigeration system lubricant.
2. A leak detection composition as claimed in claim 1, wherein the solvent comprises a mixture of fatty acid ethoxylate and alcohol ethoxylate.
3. A leak detection composition as claimed in claim 2, wherein the fatty acid ethoxylate is an ethylene oxide ester based on oleic acid.
4. A leak detection composition as claimed in claim 2, wherein the alcohol ethoxylate is cetyl oleyl alcohol ethoxylate.
5. A leak detection composition as claimed in claim 1, wherein the dye is a naphthalimide fluorescent dye.
6. A refrigerant composition comprising in combination a liquid refrigerant, and a fluorescent dye or other visible dye dissolved in or in suspension or emulsion in a solvent for said dye, whereby said refrigerant, dye and solvent comprise a uniformly homogenous permanent working composition.
7. A refrigerant composition as claimed in claim 6, further comprising a refrigeration system lubricant.
8. A refrigerant composition as claimed in claim 6 or claim 7, wherein the refrigerant is selected from CFC, HFC or HCFC, or a derivative thereof.
9. A refrigerant composition as claimed in claim 9, wherein the refrigerant is R134a.

10. A refrigerant composition as claimed in claim 7, wherein the refrigeration system lubricant is selected from hydrocarbons including natural or refined mineral oils, synthetic hydrocarbons, alkylbenzenes, polyalphaolefins, synthetic polyalkylene glycols and polyolester lubricants.

11. A refrigerant composition as claimed in any one of claims 6 to 10, wherein the dye is a naphthalimide fluorescent dye.

12. A refrigerant composition as claimed in any one of claims 6 to 11, wherein the dye comprises from about 0.001 to about 0.1% by weight based on the weight of the dye per 100 grams of refrigerant.

13. A refrigerant composition as claimed in any one of claims 6 to 12, suitable for operation in a preselected mode including cooling, freezing, heating, ventilating and air conditioning.

14. A refrigerant composition as claimed in claim 13, wherein the air conditioning system is a motor vehicle air conditioning system.

15. A method of detecting leaks in a refrigerant system that uses in combination a refrigerant, a refrigerant system lubricant and a fluorescent dye or other visible dye permanently entertained therein, the method comprising the steps of:

- preparing a solution of the fluorescent dye or other visible diagnostic composition in a solvent suitable therefor
- adding a predetermined amount of the solution from the preceding step to a combination of liquid refrigerant and refrigeration system lubricant to form a stable

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refrigerant composition having the dye or other visible diagnostic composition dissolved or solubilized therein

- charging the hermetic refrigeration system with a predetermined amount of the refrigerant composition from the preceding step
- operating the charged system as and when required and determining the presence of a leak site by the presence of a coloured fluorescence or other visible coloration detectable by visual observation or with the aid of a lamp that produces light having an emission wavelength from 300 to 480 nanometers, directed at said refrigerant system.

PATENT COOPERATION TREATY
PCT
INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

RECD 19 SEP 2000

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Applicant's or agent's file reference 2521 OIP	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416).
International application No. PCT/AU99/00921	International filing date (<i>day/month/year</i>) 22 October 1999	Priority Date (<i>day/month/year</i>) 31 October 1998
International Patent Classification (IPC) or national classification and IPC Int. Cl. ⁷ G01M 3/20, 3/22; C09K 5/04		
Applicant BRUCE WILSON SERVICES PTY LIMITED (et. al.)		

1.	This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.	
2.	This REPORT consists of a total of 4 sheets, including this cover sheet.	
	<input checked="" type="checkbox"/>	This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
These annexes consist of a total of 2 sheet(s).		
3.	This report contains indications relating to the following items:	
I	<input checked="" type="checkbox"/>	Basis of the report
II	<input type="checkbox"/>	Priority
III	<input type="checkbox"/>	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
IV	<input type="checkbox"/>	Lack of unity of invention
V	<input checked="" type="checkbox"/>	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
VI	<input type="checkbox"/>	Certain documents cited
VII	<input type="checkbox"/>	Certain defects in the international application
VIII	<input checked="" type="checkbox"/>	Certain observations on the international application

Date of submission of the demand 23 May 2000	Date of completion of the report 7 September 2000
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaaustralia.gov.au Facsimile No. (02) 6285 3929	Authorized Officer GRAEME J. BROXAM Telephone No. (02) 6283 2133

I. Basis of the report

1. With regard to the **elements** of the international application:*
- ☐ the international application as originally filed.
- ☒ the description, pages 1-12, as originally filed,
pages , filed with the demand,
pages , received on with the letter of
- ☒ the claims, pages , as originally filed,
pages , as amended (together with any statement) under Article 19,
pages , filed with the demand,
pages 13-14, received on 1 September 2000 with the letter of 1 September 2000.
- ☐ the drawings, pages , as originally filed,
pages , filed with the demand,
pages , received on with the letter of
- ☐ the sequence listing part of the description:
pages , as originally filed
pages , filed with the demand
pages , received on with the letter of
2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language which is:
- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, was on the basis of the sequence listing:
- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished
4. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/fig.
5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims 1-12	YES
	Claims	NO
Inventive step (IS)	Claims 1-12	YES
	Claims	NO
Industrial applicability (IA)	Claims 1-12	YES
	Claims	NO

2. Citations and explanations (Rule 70.7)

WO 98/54150 A (UNITED COLOR MANUFACTURING, INC.) 3 December 1998

WO 98/31752 A (MICROBIOMED CORPORATION) 23 July 1998

US 5421192 A (HENRY) 6 June 1995

US 4436641 A (STELZ) 13 March 1984

None of the above documents discloses refrigerant compositions containing a) a non-CFC refrigerant, b) a UV fluorescent dye and c) a solvent for the dye that is neither the refrigerant or a refrigeration system lubricant, such that when in a pressurised gas storage cylinder, the three components are in a uniformly homogenous state. The claims of the international application are therefore novel and, in that they offer an advance over the prior art, inventive in the light of these documents.

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

The description does not fully describe the invention because it broadly discloses an invention that cannot be distinguished from common general knowledge in the art. Amendments will be required to bring the description in line with the claims, which as a result of suitable amendments are now distinguishable from the cited art.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU 99/00921

A. CLASSIFICATION OF SUBJECT MATTERInt Cl⁶: G01M 3/20, 3/22; C09K 5/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHEDMinimum documentation searched (classification system followed by classification symbols)
G01M 3/20, 3/22, C09K 5/04

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Derwent Online Abstracts: (G01M 3/- or C09K 5/04 or F25 or refrig+ or coolant+ or aircon+ or (air and condition+)) and (dye or indicat+ or detect+ or fluoresc+ or ultraviolet+ or uv) and (solv+ or dissolv+ or emuls+ or suspen+ or lubric+)**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, X	WO 98/54150 A (UNITED COLOR MANUFACTURING, INC.) 3 December 1998 See whole document, but especially pages 1-8.	1, 5-15
X	WO 98/31752 A (MICROBIOMED CORPORATION) 23 July 1998. See in particular discussion of prior art, pages 1-3.	1, 5-15
X	US 5421192 A (HENRY) 6 June 1995. See whole document.	1-15
X	US 4436641 A (STELZ) 13 March 1984 See whole document, in particular columns 1-10	1, 7-8, 12-14

☐ Further documents are listed in the continuation of Box C☒ See patent family annex

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search
14 December 1999


Date of mailing of the international search report

17 DEC 1999

Name and mailing address of the ISA/AU

AUSTRALIAN PATENT OFFICE
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Authorized officer


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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/AU 99/00921

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report				Patent Family Member	
WO	9854150	AU	77083/98	US	5858930
WO	98/31752	AU	58184/98		
US	5421192	US	5357782		
US	4436641	US	4369120		
END OF ANNEX					